ABSTRACT OF THE DISCLOSURE

A Method And Apparatus For Control of Rate-Distortion Tradeoff by Mode Selection in Video Encoders is Disclosed. The system of the present invention first selects a distortion value D near a desired distortion value. Next, the system determines a quantizer value Q using the selected distortion value D. The system then calculates a Lagrange multiplier lambda using the quantizer value Q. Using the selected Lagrange multiplier lambda and quantizer value Q, the system begins encoding pixelblocks. If the system detects a potential buffer overflow, then the system will increase the Lagrange multiplier lambda. If the Lagrange multiplier lambda exceeds a maximum lambda threshold then the system will increase the quantizer value Q. If the system detects a potential buffer underflow, then the system will decrease the Lagrange multiplier lambda. If the Lagrange multiplier lambda falls below a minimum lambda threshold then the system will decrease the quantizer value Q.